

--40. (New) A hepatitis C virus (HCV) immunogen comprising a purified immunogenic polypeptide comprising an amino acid sequence of at least 8 contiguous amino acids encoded by the genome of a hepatitis C virus, wherein the immunogen elicits an anti-HCV immune response when administered to a mammal.--

B2 --41. (New) The immunogen according to claim 40 wherein said amino acid sequence is encoded within the C domain of HCV.--

--42. (New) The immunogen according to claim 40 wherein said amino acid sequence is encoded within the envelope domain of a hepatitis C virus.--

--43. (New) The immunogen according to claim 40 wherein said amino acid sequence is encoded ^{by a} ~~within the~~ nucleotide sequence ^{within} of Figure 14.--

--44. (New) The immunogen according to claim 40 wherein said amino acid sequence is encoded ^{by a} ~~within the~~ nucleotide sequence ^{within} of Figure 47.--

--45. (New) The immunogen according to claim 40 wherein said amino acid sequence is encoded ^{by a} ~~within the~~ nucleotide sequence ^{within} of Figure 66.--

--46. (New) The immunogen according to claim 40 wherein said amino acid sequence is encoded ^{by a} ~~within the~~ nucleotide sequence ^{within} of Figure 90.--

--47. (New) The immunogen according to claim 40 wherein said amino acid sequence is encoded ^{by a} ~~within a~~ HCV nucleotide sequence from either strand of the lambda-gt11 cDNA library deposited under ATCC No. 40394, or ATCC No. 40388, or ATCC No. 40389, or ATCC No. 40390, or ATCC No. 40391, or ATCC No. 40514, or ATCC No. 40511, or ATCC NO. 40512, or ATCC No. 40513.--

--48. (New) The immunogen according to any one of claims 40 to 47, wherein said amino acid sequence is ~~is~~ at least 10 contiguous amino acids encoded by the genome of a hepatitis C virus.--

--49. (New) The immunogen according to any one of claims 40 to 47, wherein said amino acid sequence is ~~of~~ at least 15 contiguous amino acids encoded by the genome of a hepatitis C virus.--

B2 --50. (New) The immunogen according to any one of claims 40, 43, 44, 45, 46, or 47, wherein said amino acid sequence is from a nonstructural viral protein.--

--51. (New) The immunogen according to any one of claims 40, 44, 45, 46, or 47, wherein said amino acid sequence is from a structural viral protein.--

--52. (New) A hepatitis C virus (HCV) immunogen comprising a non-naturally occurring immunogenic polypeptide comprising an amino acid sequence of at least 8 contiguous amino acids encoded by the genome of a hepatitis C virus, wherein the immunogen elicits an anti-HCV immune response when administered to a mammal.--

--53. (New) The immunogen according to claim 52 wherein said amino acid sequence ^{by the nvc seq. of} is encoded ~~within~~ the C domain of HCV.--

--54. (New) The immunogen according to claim 52 wherein said amino acid sequence ^{by the nvc seq. of} is encoded ~~within~~ the envelope domain of a hepatitis C virus.--

--55. (New) The immunogen according to claim 52 wherein said amino acid sequence ^{by a} is encoded ~~within the~~ nucleotide sequence ^{within} of Figure 14.--

--56. (New) The immunogen according to claim 52 wherein said amino acid sequence ^{by a} is encoded ~~within the~~ nucleotide sequence ^{within} of Figure 47.--

--57. (New) The immunogen according to claim 52 wherein said amino acid sequence ^{by a} is encoded ~~within the~~ nucleotide sequence ^{within} of Figure 66.--

--58. (New) The immunogen according to claim 52 wherein said amino acid sequence ^{by a} is encoded ~~within the~~ nucleotide sequence ^{within} of Figure 90.--

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--59. (New) The immunogen according to claim 52 wherein said amino acid sequence is encoded within a HCV nucleotide sequence from either strand of the lambda-gt11 cDNA library deposited under ATCC No. 40394, or ATCC No. 40388, or ATCC No. 40389, or ATCC No. 40390, or ATCC No. 40391, or ATCC No. 40514, or ATCC No. 40511, or ATCC NO. 40512, or ATCC No. 40513.--

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--60. (New) The immunogen according to any one of claims 52 to 59, wherein said amino acid sequence is ~~is~~ at least 10 contiguous amino acids encoded by the genome of a hepatitis C virus.--

--61. (New) The immunogen according to any one of claims 52 to 59, wherein said amino acid sequence is ~~is~~ at least 15 contiguous amino acids encoded by the genome of a hepatitis C virus.--

--62. (New) The immunogen according to any one of claims 52, 55, 56, 57, 58, or 59, wherein said amino acid sequence is from a nonstructural viral protein.--

--63. (New) The immunogen according to any one of claims 52, 55, 56, 57, 58, or 59, wherein said amino acid sequence is from a structural viral protein.--

--64. (New) The immunogen according to any one of claims 52 to 59, wherein said immunogenic polypeptide further comprises a non-HCV amino acid sequence capable of causing said immunogenic polypeptide to form a particle when said non-HCV amino acid sequence is expressed in a eukaryotic host.--

--65. (New) The immunogen according to claim 60, wherein said immunogenic polypeptide further comprises a non-HCV amino acid sequence capable of causing said immunogenic polypeptide to form a particle when said non-HCV amino acid sequence is expressed in a eukaryotic host.--

--66. (New) The immunogen according to claim 61, wherein said immunogenic polypeptide further comprises a non-HCV amino acid sequence capable of causing said immunogenic polypeptide to form a particle when said non-HCV amino acid sequence is expressed in a eukaryotic host.--

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--67. (New) The immunogen according to claim 62, wherein said immunogenic polypeptide further comprises a non-HCV amino acid sequence capable of causing said immunogenic polypeptide to form a particle when said non-HCV amino acid sequence is expressed in a eukaryotic host.--

--68. (New) The immunogen according to claim 63, wherein said immunogenic polypeptide further comprises a non-HCV amino acid sequence capable of causing said immunogenic polypeptide to form a particle when said non-HCV amino acid sequence is expressed in a eukaryotic host.--

--69. (New) The immunogen according to claim 64 wherein said non-HCV amino acid sequence comprises a hepatitis B surface antigen amino acid sequence.--

--70. (New) The immunogen according to any one of claims 40 to 47, or 52 to 59, wherein said immunogenic polypeptide is prepared by recombinant DNA expression.--

--71. (New) The immunogen according to claim 64, wherein said immunogenic polypeptide is prepared by recombinant DNA expression.--

--72. (New) The immunogen according to any one of claims 40 to 47, or 52 to 59, wherein said immunogenic polypeptide is prepared by chemical synthesis.--

--73. (New) The immunogen according to claim 64, wherein said immunogenic polypeptide is prepared by chemical synthesis.--

--74. (New) A vaccine composition comprising an immunogen according to any one of claims 40 to 47, or 52 to 59 and a pharmaceutically acceptable excipient.--

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--75. (New) A vaccine composition comprising an immunogen according to claim 60 and a pharmaceutically acceptable excipient.--

--76. (New) A vaccine composition comprising an immunogen according to claim 61 and a pharmaceutically acceptable excipient.--

--77. (New) A vaccine composition comprising an immunogen according to claim 64 and a pharmaceutically acceptable excipient.--

--78. (New) A vaccine composition comprising an immunogen according to claim 69 and a pharmaceutically acceptable excipient.--

--79. (New) A method of producing antibodies to hepatitis C virus comprising administering to an animal an immunogen according to any one of claims 40 to 47, or 52 to 59 in an amount sufficient to produce a humoral immune response.--

--80. (New) A method of producing antibodies to hepatitis C virus comprising administering to an animal an immunogen according to claim 60 in an amount sufficient to produce a humoral immune response.--

--81. (New) A method of producing antibodies to hepatitis C virus comprising administering to an animal an immunogen according to claim 61 in an amount sufficient to produce a humoral immune response.--

--82. (New) A method of producing antibodies to hepatitis C virus comprising administering to an animal an immunogen according to claim 65 in an amount sufficient to produce a humoral immune response.--

--83. (New) A method of producing antibodies to hepatitis C virus comprising administering to an animal an immunogen according to claim 69 in an amount sufficient to produce a humoral immune response.--